REMARKS

Claims 1-20 are pending in the application. Claims 1 and 11 have been amended as shown above. These amendments are respectfully submitted to not introduce new matter and their entry is respectfully requested.

I. ALLOWABLE SUBJECT MATTER

The indication in the Office Action that Claims 2-10 and 12-20 recite allowable subject matter is noted with appreciation. Because the Applicant believes that the remaining claims in this application are patentable, the Applicant has chosen to defer rewriting any of Claims 2-10 and 12-20 in independent form, pending consideration of this Amendment.

II. REJECTIONS UNDER 35 U.S.C. § 103

Claims 1 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Braun et al, "Image Lightness Rescaling Using Sigmoidal Contrast Enhancement Functions," Journal of Electronic Imaging, October 1999, Vol. 8(4), Pages 380-393 ("Braun"), in view of admitted prior art. These rejections are respectfully traversed.

Claims 1 and 11 recite that a tone curve for mapping digital image data onto the range of an output device is generated using a tone curve parameter that is calculated based on "*at least one current image statistic and at least one perceptual preference, said perceptual preference specified with respect to said output device in order to obtain from said output*

device a visually perceptible behavior that corresponds to said perceptual preference." This exemplary feature has not been found to be taught or suggested in Braun, or in admitted prior art.

Referring to Section 2 at pages 381 and 382, Braun estimates a parameter (e.g., the parameter X_O) for use in generating a contrast enhancement curve (remapping function) that can be used to overcome the loss in perceived lightness contrast that results when an input image with full dynamic range is scaled into a destination device that has a limited dynamic range. Ultimately, and as described in more detail below, Braun obtains the desired parameter estimate by interpolating between reference parameter curves defined by respective sets of predetermined reference parameter values. Various sets of reference parameter values and corresponding reference parameter curves are shown in Figure 9 and Table 3.

Initially, Braun uses the L^* value associated with the 75% point of the histogram of the input image to identify two of the aforementioned reference parameter curves (steps 2 and 3 of Section 6.1, at page 390). For each of the two identified reference parameter curves, Braun interpolates along the curve between two adjacent reference parameter values of the curve, in order to estimate for the curve a reference parameter value that corresponds to the minimum lightness (L^*_{minOut}) of the destination device (steps 1 and 4 of Section 6.1, at page 390).

In the example given by Braun, the reference parameter curve designated as "High" is the only available reference parameter curve whose associated 75% L^* value exceeds the 75% L^* value of the input image histogram. The reference parameter curve designated as "Normal" has an associated 75% L^* value that is lower than the 75% L^* value of the input image histogram. The reference parameter curve designated as "Low" has an associated 75% L^* value that is also lower than the 75% L^* value of the input image histogram, but the

75% L^* value of the "Normal" curve is closer to the 75% L^* value of the input image histogram. Thus, Braun selects the "High" and "Normal" reference parameter curves for interpolation.

Also in the example given by Braun, the minimum lightness, L^*_{minOut}, of the destination device is specified to be $L^*_{minOut} = 18$. Braun therefore interpolates along each of the selected "High" and "Normal" curves, in order to estimate for each of those two curves an associated reference parameter value that would correspond to $L^*_{minOut} = 18$. The estimated reference parameter value produced by interpolating along the "High" curve is the aforementioned $X_{OHigh}(18)$, and the estimated reference parameter value produced by interpolating along the "Normal" curve is the aforementioned $X_{ONormal}(18)$.

Finally, Braun interpolates between the two estimated reference parameter values, $X_{OHigh}(18)$ and $X_{ONormal}(18)$, to produce the desired parameter estimate, $X_{OEstimated}$ (step 5 of Section 6.1, at pages 390 and 391). This desired parameter estimate is used to generate the contrast enhancement curve.

As described above, the desired parameter estimate ($X_{OEstimated}$) that Braun uses to generate the contrast enhancement curve is produced based on (1) the 75% L^*value of the input image histogram, (2) the predetermined sets of reference parameter values that define the respective reference parameter curves, and (3) the minimum lightness characteristic of the destination device. Even assuming, hypothetically and for purposes of exposition only, that the 75% L^* value of the input image histogram can be considered to be an image statistic as recited in Claims 1 and 11, nevertheless, neither the reference parameter values nor the minimum lightness characteristic of the destination device constitute a perceptual preference specified with respect to Braun's destination device in order to obtain from the destination device a visually perceptible behavior that corresponds to the perceptual preference, as required by Claims 1 and 11.

As described in Sections 4.1 and 4.2 at pages 382-387, the various sets of reference parameter values in Braun are produced based on viewers' perceptual preferences under experimental test conditions wherein full dynamic range input images having different lightness histograms are scaled into different limited dynamic ranges. The different lightness histograms respectively correspond to the different sets of reference parameter values, and the different dynamic ranges respectively correspond to the different reference parameter values in any given set. The different dynamic ranges are selected to be equidistant from one another (see, e.g., the last paragraph on page 382, Figure 9 and Table 3), which facilitates interpolation between any two adjacent reference parameter values along any reference parameter curve. As is evident from the foregoing discussion, none of the reference parameter values in Braun constitutes a perceptual preference specified with respect to the destination device in order to obtain from the destination device a visually perceptible behavior that corresponds to the perceptual preference, in contrast to Claims 1 and 11.

As to the minimum lightness characteristic of Braun's destination device, this is literally a fixed characteristic of the destination device design, and is clearly not a perceptual preference specified with respect to the destination device in order to obtain from the destination device a visually perceptible behavior that corresponds to the perceptual preference, in contrast to Claims 1 and 11.

As demonstrated above, Braun does not teach or suggest the above-described exemplary feature of Claims 1 and 11. Neither has this feature been found to be taught or suggested in admitted prior art. Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejections of Claims 1 and 11.

III. CONCLUSION

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. Should the Examiner have any further questions or comments facilitating allowance, the Examiner is invited to contact Applicant's representative indicated below to further prosecution of this application to allowance and issuance.

Respectfully submitted,

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Dated: 8/23/2005

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